

PROCEEDINGS
OF THE
BIOLOGICAL SOCIETY OF WASHINGTON

NEW GENERA AND SPECIES OF ISSIDAE
(FULGORIDAE).

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While collecting on a dry rocky slope in southwestern Utah several years ago, the writer beat from the scanty vegetation of this desert region three or four specimens of a very curious leaf hopper, evidently an Issid, but apparently representing an undescribed genus. The few specimens taken were apparently stray captures and no more were found in this region although diligent search was made on nearly every plant represented in the original locality.

The past season the writer came upon this insect again in two different regions in California. The first capture was on the Mojave desert and a little later the same insect was found near the Salton Sea. Both of these places are extreme desert regions and very similar in vegetation to the Utah region where it was first found. The insect, therefore, appears to be closely confined to the extremely hot, dry desert areas of the Southwest. It is much smaller and paler than its nearest relatives, no doubt an adaptation to the sparse, pale vegetation of its normal habitat. The genus is named in honor of Prof. Herbert Osborn, who has done so much to further our knowledge of the American leaf hoppers. The types of this and all other species here described are in the author's collection.

Osbornia gen. nov.

Somewhat resembling *Danepteryx* but with elytra oval and abbreviated, and the margin of vertex and front produced into a pair of acute horn-like angles above the eyes.

Vertex transversely concave, inclined, wider than long, anterior margin elevated, meeting the front in an acute angle which is accentuated at the lateral carinae, forming two acutely triangular "horns" nearly as high

as the width of an eye. The anterior margin of vertex broadly triangularly emarginate, posterior margin deeply roundly emarginate. Front nearly horizontal, broad, convex below, slightly narrowing above to just before the apex where it expands into the horns. Median carina distinct and extending onto vertex. Clypeus strongly inflated.

Pronotum long on the median line, very narrow behind the eyes, median carina distinct, mesonotum tricarinatè. Elytra brachypterous, oval, corium with three principal veins and irregular reticulations. Abdomen with the exposed segments strongly tubercularly elevated. Legs as in *Danepteryx*, posterior tibia with a single spine.

Type of the genus *O. cornuta*.

***Osbornia cornuta* sp. nov.**

Superficially resembling *Peltonotellus histrionicus* somewhat, smaller than *Danepteryx*. A small brownish insect with abbreviated ashy gray elytra and acute outer angles to the vertex. Length, 3 mm.

Vertex twice wider than its length on lateral carinae. Four times wider than its median length. Lateral carinae distinct, elevated, meeting the lateral carinae of front in an acutely produced ear-like angle or horn. Between these horns the vertex is triangularly emarginate anteriorly. Front horizontal, one-third wider than its median length, margins nearly parallel, slightly constricted just beneath the lateral horns. Clypeus large, strongly inflated. Elytra abbreviate, roundly truncate, usually slightly separated by the elevated abdomen. The last four abdominal segments with distinct tuberculate, median elevations.

Color.—Quite variable, usually dark brown with the ground color of the elytra and some stripes on the abdomen light. Front brown, the lateral carinae, a row of dots just inside these and a narrow crescent above the clypeus pale. Clypeus tawny or orange. Vertex brown, its carinae pale. Elytra ashy gray with the reticulate nervures brown, especially around the margins. Abdomen brown with five rows of irregular spots. Pale specimens are sometimes almost straw color with the clypeus and the tubercles on the abdominal segments reddish orange.

Described from twelve examples from St. George, Utah, and Mojave, California. Collected by the author.

***Naso melichari* sp. nov.**

Closely resembling *robertsoni* in size and form. Smaller with the cephalic process less inflated at the apex. Piteley black without markings. Length, 3.75 mm.

Vertex short transverse, sharply separated from the front by a distinct carina. Front broad at base, broader than in *fitchi*, tapering gradually into a long pointed snout as seen from above. The lateral carinae expanded just before the eyes, then contracted near the middle of the process, forming a somewhat diamond-shaped compartment, beyond this regularly narrowing to the apex. Median carina obscure on the disc, becoming prominent almost foliaceous around the extremity. As seen from the side

this protuberance is inclined at an angle of about forty-five degrees with the extremity rounded and enlarged. Pronotum large with anterior and median carinae prominent. Elytra rather narrow with a large number of irregular longitudinal veins. Abdomen narrow, the segments weakly pustulate.

Color.—Pitchy black, the posterior margin of the eyes fulvous, the rostrum and coxae white, and often a testaceous iridescence to the front and elytra.

Described from three females from Arizona in the collection of the author.

Hysteropterum unum sp. nov.

Resembling *cornutum* but larger and more strongly marked. Dirty straw marked with brown and green. Length, 4 mm.

Vertex two and one-half times wider than long, much longer and narrower than in *cornutum*, the anterior margin as seen from above straight, disc depressed, posterior margin slightly, roundly emarginate. Front longer and narrower than in *cornutum*, the lateral carina straight to just before the clypeus where they round in a trifle. Union of front and vertex right angled, distinctly carinate; as viewed from the front this union is broadly angularly emarginate. Clypeus strongly obliquely ribbed and with a broad median carina. Pronotum long and narrow, nearly as long as the width of the vertex. Elytra longer than in *cornutum* and more definitely gibbous.

Color.—Vertex green, a pair of brown V-shaped marks in the posterior angles. Front pale green with irregular brown spots between the carinae. Clypeus orange. Pronotum and mesonotum pale green with traces of fuscous marking. Elytra pale straw, greenish at the hinge. A broad brownish stripe on either elytron, running back from the eye and enclosing a broad pale sutural stripe, which is angularly enlarged just before the apex of clavus.

Described from a single male from Pueblo, Colorado. Collected by the author. Readily recognized by its distinct vertex and elytral markings.

Dictyobia combinata sp. nov.

Slightly larger than *permutata* with longer less angled elytra. An oblique light stripe on each elytron. Length, 5 mm.

Vertex about six times wider than its median length with the margins strongly carinate. Front horizontal, slightly convex, a trifle widened between the antennae. Elytra decidedly longer and somewhat broader than in *permutata*. Much broader posteriorly, venation similar, the inner veins of corium much closer to claval suture.

Color.—Female sulphur yellow with the elytra brown. A pair of brown dots on the posterior part of the mesonotum. The brown of the elytra interrupted by a broad, definite oblique, subhyaline band arising on the middle of the clavus and extending to the costa beyond the middle. The anterior part of costal area and an oval area against the apex light. The

brown markings often accentuated against the oblique band. Male, uniformly darker with the same markings.

Described from five examples taken at Colfax, California, by the author.

***Dictyssa ovata* sp. nov.**

Slightly smaller and darker than *areolata* with only three discal hyaline cells on elytra. Length, 3.5 mm.

Vertex narrow, anterior margin straight, carinate, meeting front in a right angle, slightly longer and more prominently angled than in *areolata*. Elytra with the two inner branches on the corium widely separated and curved to form an almost circular cell on the inner disc. In *areolata* and *mutata* the inner branch is not curved and the outer one less so than in the present species.

Color.—Face vertex and pronotum clear pale yellow, rarely obscured with smoky brown. Elytra varying from dark brown to almost black with the anterior half of the costa light, interrupted with transverse brown nervures. Posterior half of costa and entire apical margin and most of the sutural margin ornamented with small semicircular pellucid spots. Disc of corium with three milky-white subhyaline cells in an oblique band, the median cell much the larger, almost circular, and its margin studded with about eight short, dark nervures. Inner hyaline area irregular, much smaller, usually extending across the suture onto the clavus, and often partially or wholly divided by a cross nervure. Outer cell nearly pentagonal in outline, scarcely two-thirds the size of the middle one and usually more than its own width removed from the spots along the costa.

Described from eight examples from Ti Juana, Mexico, and Tia Juana, California, collected by the author. Closely resembling *areolata* but easily separated by the smaller size and the abbreviated oblique marking of the elytra which does not reach the costa.

***Dictyssa fenestrata* sp. nov.**

Resembling *ovata* in form, slightly smaller. Brown with two transverse bands of hyaline spots behind the middle of the elytra. Length, 3 mm.

Vertex slightly longer and narrower than in *ovata*, with the carinae more elevated. Elytral venation similar to *ovata* but with the first two sectors of the corium less widely separated as in *mutata*, and with a smaller number of reticulate veinlets, especially towards the apical portions.

Color.—Pale dirty brown. Elytra brown with the nervures mostly pale. Costal and sutural margins bordered with small pale spots. An oblique hyaline band from the base of clavus to center of corium. A transverse hyaline band just back of the middle of corium made up of five or six angular cells, another transverse band across the apex composed of three or four large oval hyaline cells and about the same number of minute round ones against the margin between the larger ones.

Described from six examples from Tia Juana, California, collected by the author. A very distinct species and one easily recognized by the large hyaline cells at the apex.

Dictyssa obliqua sp. nov.

Size and form of *fenestrata* nearly but much darker, venation and oblique band as in *mutata* nearly. Dark brown or black with an oblique band and marginal spots on the elytra hyaline. Length, 3 mm.

Vertex and pronotum black, the margins pale. Median carina definitely white lined, face brown or pale brown, the carinae margined with fuscous. Elytra black, an oblique hyaline band from the posterior disc of clavus to the middle of the corium, then angled to the costa as in *mutata*, the two outer cells oval and smaller than those on disc. Entire margin of elytra sparsely ornamented with pellucid dots, the largest ones around the apex.

Described from twelve examples from Tia Juana, California, and Tia Juana, Mexico, collected by the author. This is the only dark species of the genus that has the oblique band.